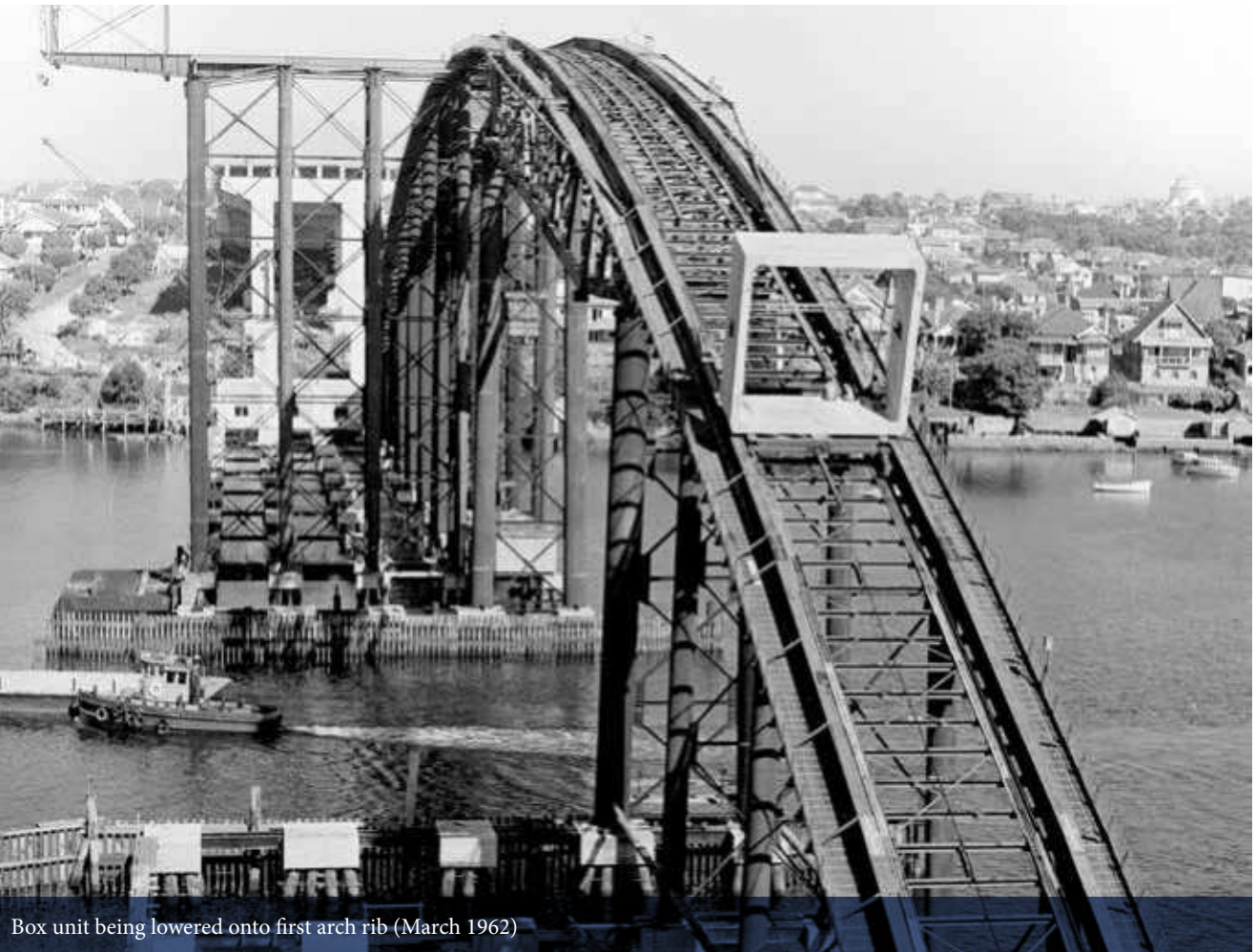


RECORD BREAKER

When completed in 1964, Gladesville Bridge was the longest span concrete arch bridge in the world at 1,000 feet (305 metres).

Gladesville’s design features, innovative construction methods, the jacking process and quality control procedures set new standards for bridge design and construction.

It marked the transition from steel bridge technology including the Sydney Harbour Bridge towards concrete designs and confirmed the arrival of pre-stressed concrete as a major bridge-building material in Australia. It was the first major concrete arch bridge in the world that was built using precast sections and was one of the first bridges designed with the aid of a computer.



Gladesville Bridge and its wide northern approaches provide an insight into the transportation thinking of the immediate post-war era.

In 1965 the bridge was awarded a Civic Design Award by the Royal Australian Institute of Architects.

In 2014 Gladesville Bridge was nominated for listing on the NSW State Heritage Register and Engineers Australia recognised the bridge as an Engineering Heritage International Marker.



ABORIGINAL BEGINNINGS

This area is part of the traditional lands of the Wallumedegal or Wallumattagal clan, one of the 29 clans of the Eora nation. The Wallumedegal people inhabited this land for thousands of years prior to European settlement.

Like the Wangal clan on the opposite shore, the Wallumedegal people held a deep connection to the land and used Parramatta River for traditional resource gathering.

EARLY CROSSINGS

The original Gladesville Bridge built in 1881 was a two-lane, wrought-iron, lattice-truss bridge featuring an opening swing span for river traffic. It replaced the Bedlam Point punt and was the only vehicular bridge crossing of the Parramatta River east of Parramatta until the Sydney Harbour Bridge opened in 1932. Until 1949 the old bridge also carried the tram service to Ryde.

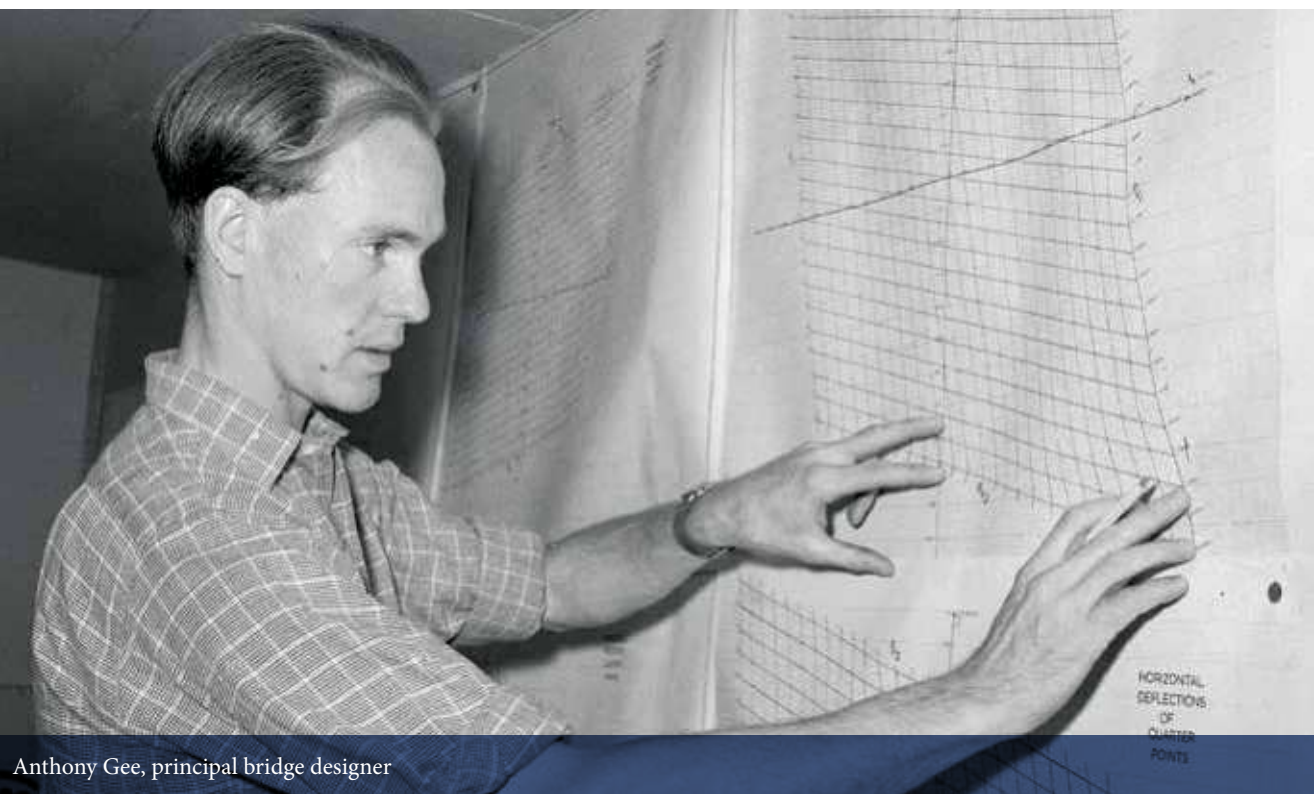


However, by the 1950s the narrow bridge had become congested with increasing traffic volumes and a replacement was needed.

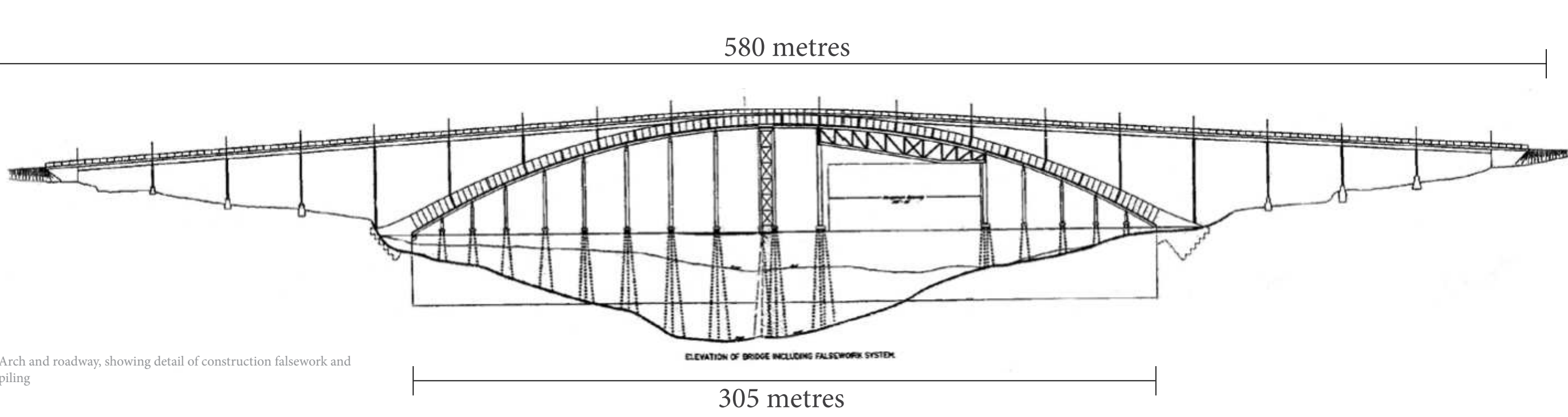
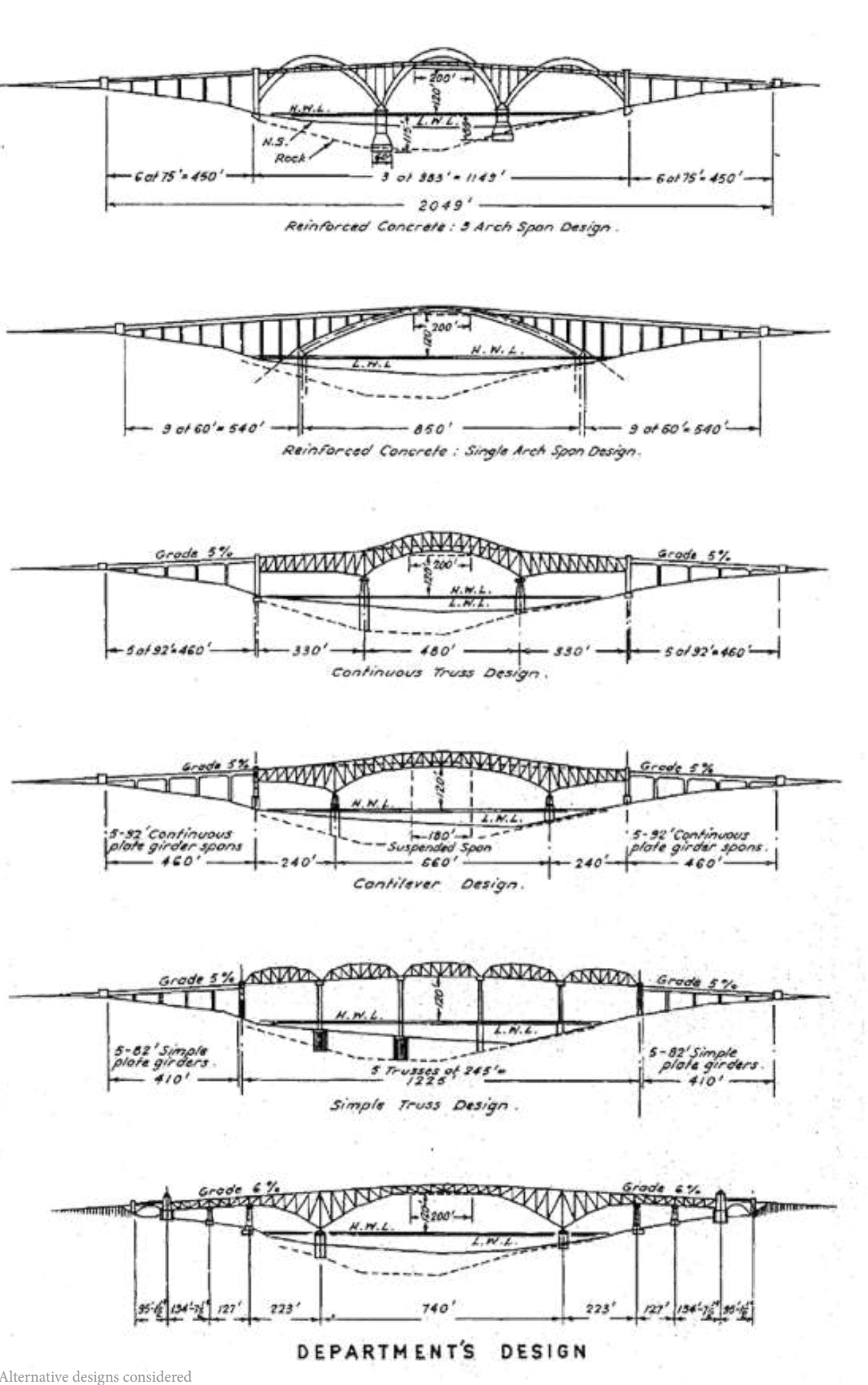
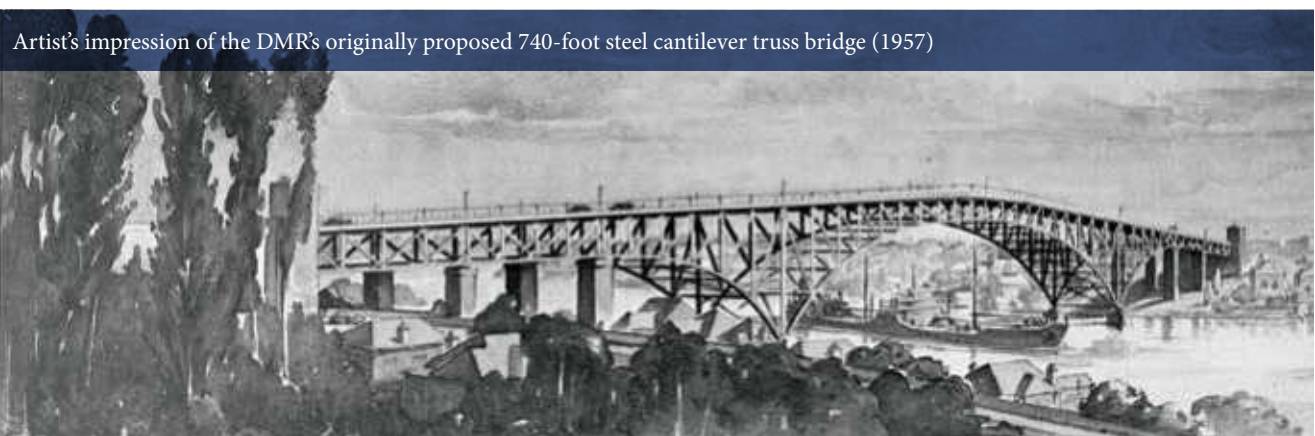


DESIGN AND TENDERING

In 1957 the Department of Main Roads (DMR) invited tenders for a steel cantilever bridge. The United Kingdom firm of Reed and Mallik, in conjunction with Sydney-based firm Stuart Brothers, submitted a proposal for a new bridge designed by G. Maunsell & Partners of London for a concrete arch of 910 feet (277 metres) in length.



The DMR accepted the alternative tender. However, it was subsequently modified to 1,000 feet (305 metres) and the foundations moved to the shoreline, making it the longest concrete arch in the world at that time.



BUILDING THE BRIDGE

Construction started in December 1959 with the arch foundations and the temporary steel falsework to support the arch ribs.



The concrete units for the arch ribs (108 hollow box units weighing 51 tonnes and 19 solid diaphragm units for each rib) were made at a casting yard set up in the ‘Horse Paddock’ five kilometres downstream on the Parramatta River at Woolwich.

By July 1962 all of the box units for the first arch rib had been placed onto the falsework. Sets of 224 Freyssinet flat jacks which had been placed at two locations within the arch were then inflated to compress the arch, lifting it off the falsework. The falsework was then moved sideways and the process was repeated for the second, third and fourth arch ribs.



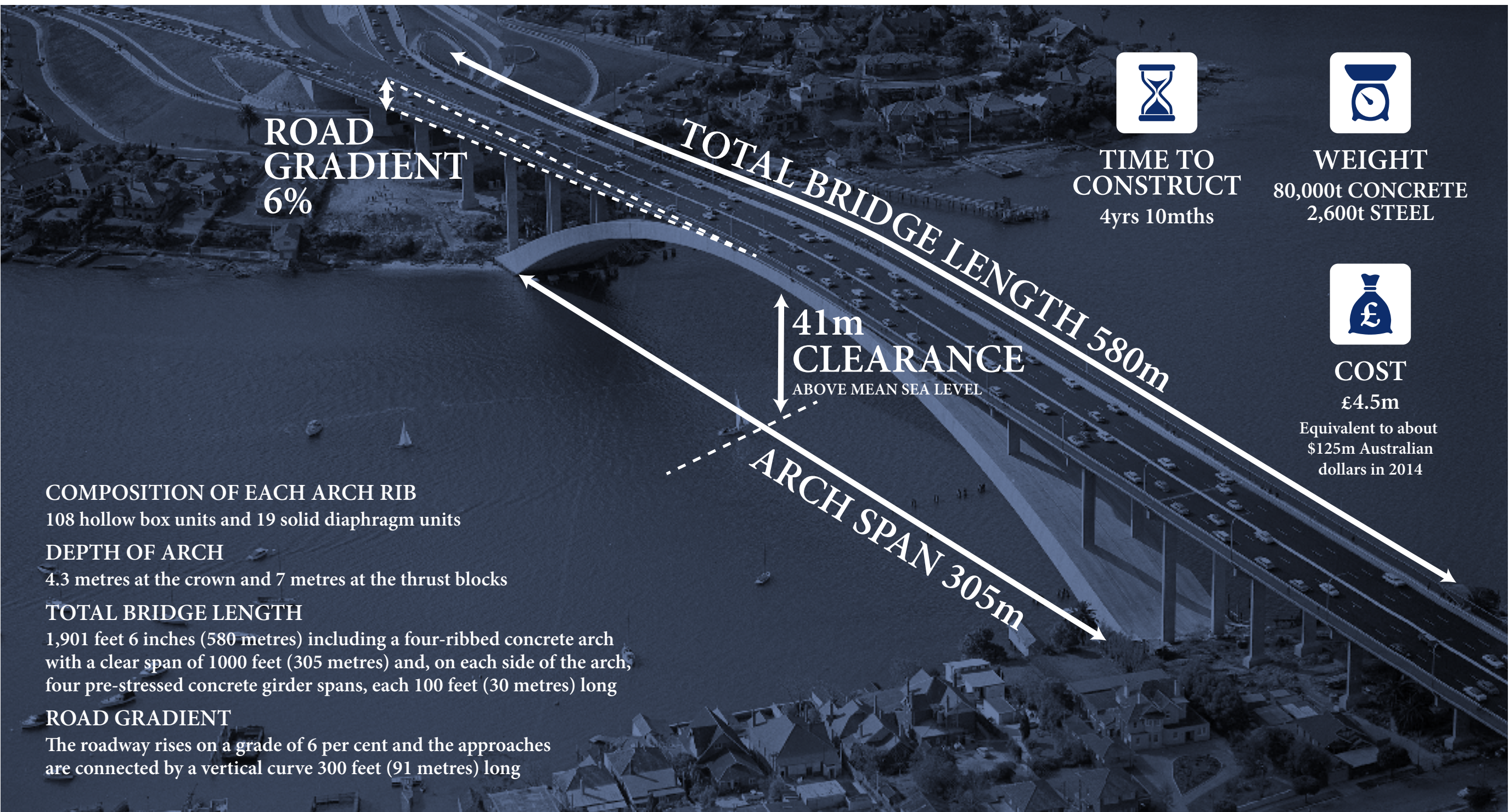
When the ribs were complete in June 1963 they were stressed together and the roadway was constructed using columns and beams cast in yards at each end of the bridge.

A feature of the bridge is the specially designed pedestrian safety railings which don’t obstruct the view from the bridge. These are now a common feature in bridge design.

Despite the absence of many of today’s safety practices, there was no loss of life or serious injuries during the bridge construction.

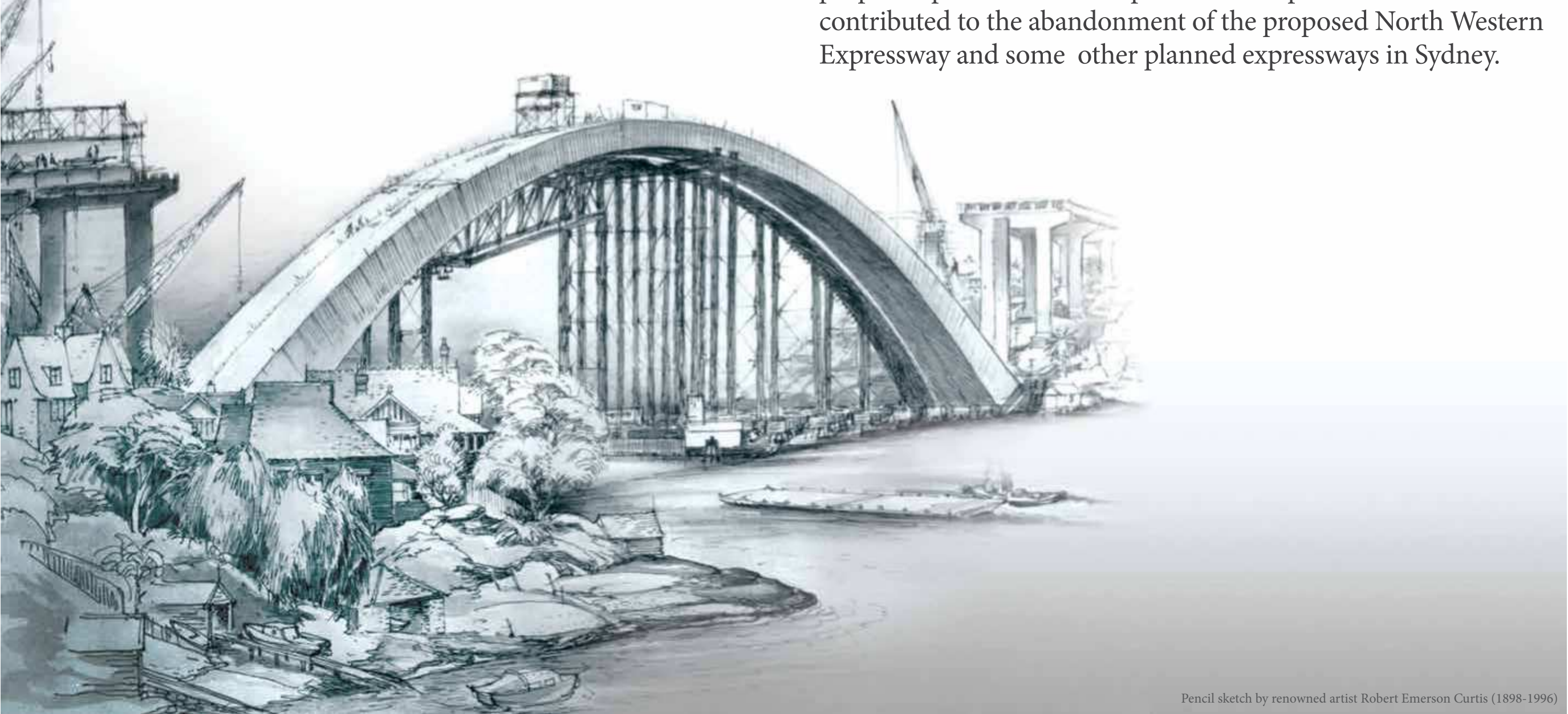
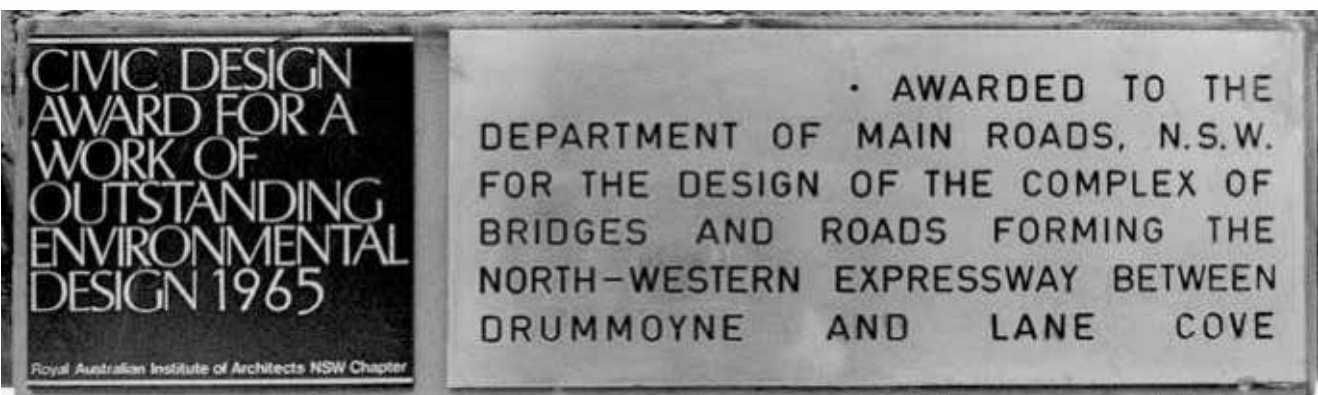


KEY STATISTICS



THE GRAND OPENING

The bridge was opened at 11am on Friday 2 October 1964 by Her Royal Highness Princess Marina Duchess of Kent. NSW Premier John Renshaw and the Minister for Highways Pat Hills were in attendance.



RISE OF HERITAGE AWARENESS

The new Gladesville Bridge along with Tarban Creek Bridge and Fig Tree Bridge were to form part of the proposed North Western Expressway up the Lane Cove River valley to Wahroonga, where it would join the Sydney-Newcastle Expressway.

The construction of the expressway required the demolition of several historic buildings. The most significant of these was St Malo, a mansion built around 1856 by Didier Joubert, a wine-merchant and Hunters Hill property speculator, who later became the Mayor.

The loss of St Malo gave rise to one of the first campaigns for the preservation of a building by the National Trust. Its demolition promoted the rise of heritage awareness and activism in Australia that would in later years influence the form and location of proposed public works and private developments. This activism contributed to the abandonment of the proposed North Western Expressway and some other planned expressways in Sydney.